What is claimed is:

1. A method of frequency offset compensation, said method comprising the steps of:

receiving an input signal wherein frequency offsets have been translated to DC offsets;

first determining a current maximum peak value of said input signal;

second determining a current minimum peak value of said input signal;

calculating an average of said current maximum peak value and said current minimum peak value to yield a DC offset estimate; and

subtracting said DC offset estimate from said input signal to yield a frequency compensated output signal.

2. The method according to claim 1, wherein said step of determining said current maximum peak value comprises the steps of:

comparing said input signal with a previous maximum peak value;

if said input signal is greater than said previous maximum peak value, adding said current maximum peak value to a first difference between said input signal and said previous maximum peak value, said first difference multiplied by a maximum charge coefficient to yield said current maximum peak value; and

if said input signal is not greater than said previous maximum peak value, subtracting a second difference between said current maximum peak value and said input signal multiplied by a maximum discharge coefficient from said previous maximum peak value to yield said current maximum peak value.

3. The method according to claim 2, further comprising the step of generating said maximum charge coefficient and said maximum discharge coefficient in accordance with the occurrence of a specific event.

4. The method according to claim 2, further comprising the step of generating said maximum charge coefficient and said maximum discharge coefficient so as to limit the distance between detected maximum peaks and minimum peaks to within a predetermined range.

5. The method according to claim 1, wherein said step of determining said current minimum peak value comprises the steps of:

comparing said input signal with a previous minimum peak value;

if said input signal is not greater than said previous maximum peak value, subtracting a first difference between said current minimum peak value and said input signal, said first difference multiplied by a minimum discharge coefficient and subtracted from said previous minimum peak value to yield said current minimum peak value; and

if said input signal is greater than said previous minimum peak value, adding said current minimum peak value to a second difference between said input signal and said previous minimum peak value, said second difference multiplied by a minimum charge coefficient to yield said current minimum peak value. .

6. The method according to claim 5, further comprising the step of generating said minimum charge coefficient and said minimum discharge coefficient in accordance with the occurrence of a specific event.

7. The method according to claim 5, further comprising the step of generating said maximum charge coefficient and said maximum discharge coefficient so as to limit the distance between detected maximum peaks and minimum peaks to within a predetermined range.

8. The method according to claim 1, further comprising the step of calculating a moving average over N values of said average of said current maximum peak value and said current minimum peak value.

9. An apparatus for frequency offset compensation, comprising:

first means for receiving an input signal wherein frequency offsets have been translated to DC offsets;

second means for determining a current maximum peak value of said input signal;

third means for determining a current minimum peak value of said input signal;

fourth means for calculating an average of said current maximum peak value and said current minimum peak value to yield a DC offset estimate; and

fifth means for subtracting said DC offset estimate from said input signal to yield a frequency compensated output signal.

10. The apparatus according to claim 9, wherein said second means for determining said current maximum peak value comprises:

means for comparing said input signal with a previous maximum peak value;

means for adding said current maximum peak value to a first difference between said input signal and said previous maximum peak value, said first difference multiplied by a maximum charge coefficient to yield said current maximum peak value if said input signal is greater than said previous maximum peak value; and

means for subtracting a second difference between said current maximum peak value and said input signal multiplied by a maximum discharge coefficient from said previous maximum peak value to yield said current maximum peak value if said input signal is not greater than said previous maximum peak value.

11. The apparatus according to claim 10, further comprising gear shift logic means for generating said maximum charge coefficient and said maximum discharge coefficient in accordance with the occurrence of specific events.

12. The apparatus according to claim 10, further comprising gear shift logic means for generating said maximum charge coefficient and said maximum discharge coefficient so as to limit the distance between detected maximum peaks and minimum peaks to within a predetermined range.

13. The apparatus according to claim 9, wherein said third means for determining said current minimum peak value comprises:

means for comparing said input signal with a previous minimum peak value;

means for subtracting a first difference between said current minimum peak value and said input signal, said first difference multiplied by a minimum discharge coefficient and subtracted from said previous minimum peak value to yield said current minimum peak value if said input signal is not greater than said previous maximum peak value; and

means for adding said current minimum peak value to a second difference between said input signal and said previous minimum peak value, said second difference multiplied by a minimum charge coefficient to yield said current minimum peak value if said input signal is greater than said previous minimum peak value.

14. The apparatus according to claim 13, further comprising gear shift logic means for generating said minimum charge coefficient and said minimum discharge coefficient in accordance with the occurrence of a specific event.

15. The apparatus according to claim 13, further comprising gear shift logic means for generating said maximum charge coefficient and said maximum discharge coefficient so as to limit the distance between detected maximum peaks and minimum peaks to within a predetermined range.

16. The apparatus according to claim 9, further comprising sixth means for calculating a moving average over N values of said average of said current maximum peak value and said current minimum peak value.

17. An apparatus for frequency offset compensation, comprising:

first means for receiving an input signal wherein frequency offsets have been translated to DC offsets;

second means for determining a current maximum peak value of said input signal comprising;

means for comparing said input signal with a previous maximum peak value;

means for adding said current maximum peak value to a first difference between said input signal and said previous maximum peak value, said first difference multiplied by a maximum charge coefficient to yield said current maximum peak value if said input signal is greater than said previous maximum peak value;

means for subtracting a second difference between said current maximum peak value and said input signal multiplied by a maximum discharge coefficient from said previous maximum peak value to yield said current maximum peak value if said input signal is not greater than said previous maximum peak value;

third means for determining a current minimum peak value of said input signal comprising;

means for comparing said input signal with a previous minimum peak value;

means for subtracting a first difference between said current minimum peak value and said input signal, said first difference multiplied by a minimum discharge coefficient and subtracted from said previous minimum peak value to yield said current minimum peak value if said input signal is not greater than said previous maximum peak value;

means for adding said current minimum peak value to a second difference between said input signal and said previous minimum peak value, said second difference multiplied by a minimum charge coefficient to yield said current

minimum peak value if said input signal is greater than said previous minimum peak value;

fourth means for calculating an average of said current maximum peak value and said current minimum peak value to yield a DC offset estimate; and

fifth means for subtracting said DC offset estimate from said input signal to yield a frequency compensated output signal.

18. The apparatus according to claim 17, further comprising gear shift logic means for generating said maximum charge coefficient and said maximum discharge coefficient so as to limit the distance between detected maximum peaks and minimum peaks to within a predetermined range.

19. The apparatus according to claim 17, further comprising gear shift logic means for increasing said maximum discharge coefficient and said minimum discharge coefficient in response to the distance between detected maximum peaks and minimum peaks exceeding a predetermined amount.

20. The apparatus according to claim 17, further comprising gear shift logic means for increasing said maximum charge coefficient and said minimum charge coefficient in response to the distance between detected maximum peaks and minimum peaks being less than a predetermined amount.